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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,048	12/31/2003	Jeffry Golden	42173-018	8958
29493	7590	10/04/2006		
HUSCH & EPPENBERGER, LLC 190 CARONDELET PLAZA SUITE 600 ST. LOUIS, MO 63105-3441			EXAMINER MCKANE, ELIZABETH L	
			ART UNIT 1744	PAPER NUMBER

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/750,048

Applicant(s)

GOLDEN, JEFFRY

Examiner

Leigh McKane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/18/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 59-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blidschun et al. (US 4,680,163) in view of Bayliss et al. ("The Combined Effect of Hydrogen Peroxide and Ultraviolet Irradiation on Bacterial Spores").

Blidschun et al. teaches a method of decontaminating a contaminated non-conducting surface wherein the method includes providing a conducting backing **13** for the non-conducting surface **15** and spraying an electrically charged photosensitizer (hydrogen peroxide) onto the contaminated surface **15**. See col.3, lines 34-44. Blidschun et al. is silent with respect to illuminating the sprayed surface with light having a wavelength of 200-320 nm.

Bayliss et al., however, discloses that the combination of ultraviolet light at 254 nm with hydrogen peroxide "markedly reduced the concentration and time required to produce a kill of 99.99%." See Table 4 and page 269. For this reason, it would have been obvious to one of ordinary skill in the art to combine the step of UV irradiation with hydrogen peroxide contact in the method of Blidschun et al..

3. Claims 61 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodera et al. (US 4,366,125) in view of Wiesmann (US 4,751,392).

Kodera et al. teaches a method for decontaminating a contaminated surface. The method

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of Kodera et al. includes providing a hydrogen peroxide fluid reservoir **25** (Figure 2) and a spray apparatus **13,15** for spraying the hydrogen peroxide solution on the surface of packaging material **1** to be decontaminated. See Figure 1. A light source **34** illuminates the sprayed contaminated surface. The hydrogen peroxide is supplied through a heating element to the reservoir. See col.4, lines 6-8. Moreover, Kodera et al. discloses heating the hydrogen peroxide solution using aseptic hot air at **41a**. However, Kodera et al. is silent with respect to using waste heat from the light source to heat the hydrogen peroxide solution.

Wiesmann discloses that it was known to cool a UV lamp **4** used for liquid sterilization with a flow of air **23** circulated by fan **19**. The heated air exchanges heat at **18** with the liquid medium **1** being irradiated by the UV lamp **4**. See Figure 1.

Since Kodera et al. already discloses using hot air to dry the hydrogen peroxide from the surface and to heating the hydrogen peroxide solution, it would have been obvious to employ waste heat from the light source **34** as disclosed by Wiesmann for either of these heat sources, for cost savings and energy efficiency.

4. Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodera et al.

Kodera et al. teaches a method for decontaminating a contaminated surface. Kodera et al. teaches a method for decontaminating a contaminated surface. The method of Kodera et al. includes providing “portable” barrier **A,B,C,D** having an entrance and an exit therein, surrounding the contaminated object (packaging material) with the barrier by moving the object into the entrance, spraying a hydrogen peroxide solution onto the surface of packaging material, and illuminating the sprayed surfaces with light from light source **34**. Within the barrier section

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B, having an entrance adjacent **A** and an exit adjacent **C**, an air flow is established. Air entering the barrier with hydrogen peroxide mist through **13** flows toward the entrance adjacent **A** to exit through exhaust **14**. However, due to the vacuum induced at **11** and the fact that shield plates **44** do not create a perfect seal, the examiner submits that some air would have necessarily flow out of the entrance adjacent **A**. Moreover, air entering the barrier with hydrogen peroxide mist through **13** also flows toward the exit adjacent **C**. Again, as the shield plate **44** adjacent the exit **C** is not a perfect seal, some air will necessarily flow through the exit toward the exhaust **14**. Although not specifically disclosed by Kodera et al., it is clear from the disclosure thereof that the “sterilizing” UV lamps used are those operating at the convention UV sterilizing wavelength of 254 nm.

5. Claims 62-66, 70, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blidschun et al. in view of Kodera et al. and Wilkie (US 5,238,709).

Blidschun et al. teaches a method of decontaminating a contaminated surface wherein the method includes spraying an electrically charged photosensitizer (hydrogen peroxide) onto a non-conducting contaminated surface **15** (col.3, lines 34-44) having a conducting backing **13**. Blidschun et al. is silent with respect to a barrier, depositing the overspray on the barrier and to illuminating the sprayed surfaces of the object with light.

Kodera et al. teaches a method for decontaminating a contaminated surface. The method of Kodera et al. includes providing “portable” barrier **A,B,C,D**, surround the contaminated object (packaging material) with the barrier, spraying a hydrogen peroxide solution onto the surface of packaging material, and illuminating the sprayed surfaces with light from light source **34**.

Within the barrier section **B**, having an entrance adjacent **A** and an exit adjacent **C**, an air flow is

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established. Although not specifically disclosed by Koder et al., it is clear from the disclosure thereof that the “sterilizing” UV lamps used are those operating at the convention UV sterilizing wavelength of 254 nm. As the combination of hydrogen peroxide with UV light is disclosed by Koder et al. to produce a synergistic sterilization effect (col.6, lines 18-24), it would have been obvious to irradiate the sprayed surfaces of Blidschun et al.. It is further deemed obvious to provide the barrier of Koder et al. in the method of Blidschun et al., because although not expressly stated by Blidschun et al., it would have been necessary for Blidschun et al. to include a barrier, portable or otherwise, to enclose the processing equipment and containers in order to protect operators from hydrogen peroxide fumes and to prevent recontamination of the sterilized containers.

Wilkie discloses a method of electrostatically spray coating a surface. Overspray is attracted by a charged backplate 18. It is deemed obvious to charge the surfaces of the barrier of Blidschun et al. in the manner disclosed by Wilkie, as Wilkie teaches that doing so allows collection and reuse of the sprayed material (col.4, lines 3-6). As to the barrier being grounded, it would have been an obvious choice if the surface being coated is charged and is not also grounded.

With respect to the barrier being opaque, it would have been obvious to do so in order to protect the operator from harmful UV radiation.

6. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blidschun et al., Koderä et al., and Wilkie as applied to claim 62 above, and further in view of Wiesmann et al..

Blidschun et al. with Koderä et al. is silent with respect to using waste heat from the light source to heat the hydrogen peroxide solution. However, Blidschun et al. does disclose a step of heating the hydrogen peroxide solution using a stream of hot air (col.6, line 62 to col.7, line 3). Wiesmann discloses that it was known to cool a UV lamp 4 used for liquid sterilization with a flow of air 23 circulated by fan 19. The heated air exchanges heat at 18 with the medium 1 being irradiated by the UV lamp 4. See Figure 1.

Since Blidschun et al. already discloses using hot air to dry the hydrogen peroxide from the surface, it would have been obvious to employ waste heat from the light source as disclosed by Wiesmann, for cost savings and energy efficiency.

Response to Arguments

7. Applicant's arguments filed 18 July 2006 with respect to claims 59 and 60 have been fully considered but they are not persuasive.


Specifically, applicant attempts to eliminate Blidschun et al. by arguing that the production of and application of the mist of Blidschun et al. is not "spraying." It would seem that applicant is using semantics to distinguish the instant invention. In response, the examiner notes that the definition of "spraying" requires only "to disperse a liquid in a mass or jet of droplets" and that a "spray" is defined as "a mass of dispersed droplets." As Blidschun et al. clearly teaches dispensing a liquid as a mass of dispersed droplets, then Blidschun et al. meets the requirements of "spraying".

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Friday (5:30 am-2:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leigh McKane
Primary Examiner
Art Unit 1744

elm
1 October 2006